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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,757	12/30/2003	Khosro Shamsaifar	WJT08-0059 (JSF001-0008)	2735
7590 07/20/2005 William J. Tucker 14431 Goliad Dr. Box #8 Malakoff, TX 75148			EXAMINER HAM, SEUNGSOOK	
			ART UNIT 2817	PAPER NUMBER

DATE MAILED: 07/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/748,757

Applicant(s)

SHAMSAIFAR ET AL.

Examiner

Seungsook Ham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 12-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 12-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

In the specification, p. 8, lines 20-22, and page 10, lines 17-20, the US

Application serial numbers are missing.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitazawa et al. (JP '403) in view of Liang et al. (US '883) or Toncich (US '251).

Kitazawa et al. (figs. 1-3) discloses a coaxial combline filter comprising: a plurality of coaxial combline resonators 10a, 10b; at least one of the plurality of coaxial resonators includes at least one metallized through-hole 12a, 12b; an input/output coupling metallization 14a, 14b on a surface of the plurality of coaxial resonators; and an iris with an aperture connecting the plurality of coaxial resonators 15a, 15b.

Kitazawa et al. does not show at least one voltage tunable dielectric varactor associated with the plurality of coaxial resonators.

Liang et al. discloses a tunable filter having voltage tunable dielectric varactors (figs. 8 and 9) coupled to resonators (different types of resonators can be used, col. 6,

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lines 35-44) for fast tuning, low insertion loss and high Q values, etc. (col. 6, lines 35-67). Moreover, Liang et al. teaches tunable duplexers/filter could be used to replace fixed duplexers/filters to cover larger frequency band and provide better selectivity (col. 1, lines 41-60 and col. 9, line 63 – col. 10, line 6). Furthermore, Liang et al. shows a tunable dielectric film 106 on a low dielectric constant substrate 102 (figs. 8 and 9).

Toncich (figs. 1a, 1b and 6-8a) also discloses a tunable filter having voltage tunable dielectric varactors 410a, 410b coupled to resonators 404, 408 (e.g., coaxial resonator, col. 14, lines 43-51) for low insertion loss (col. 3, lines 4-11). Toncich also teaches the problem of fixed tuned filter and suggests using tunable filter to overcome the fixed tuned filter (col. 2, lines 56-67). Furthermore, Toncich shows a tunable dielectric film 16 on a low dielectric constant substrate 12 (fig. 1b).

It would have been obvious to one of ordinary skill in the art to provide a voltage tunable dielectric capacitor of Liang et al. or Toncich coupled to resonators in the device of Kitazawa et al. to tune filter frequency for fast tuning, low insertion loss, high Q values as taught by Liang et al. (col. 6, lines 35-67 and col. 10, lines 20-35) or Toncich (col. 3, lines 4-11).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tsuda (US '282) discloses a tunable filter having a ferro-electric capacitors;

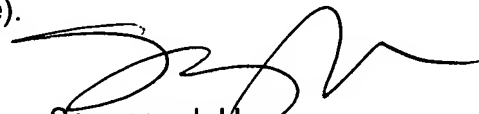
Ito (JP '706) discloses a coaxial dielectric filter having an iris between the coaxial resonators and input/output metallization on a surface of the coaxial resonator.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (571) 272-2405. The examiner can normally be reached on Monday-Thursday, 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Seungsook Ham
Primary Examiner
Art Unit 2817

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